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| APPLICATION NO. | FI | LING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO |
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| 10/766,398 | 01/28/2004 | | Michael J. Murphy | 67,097-040; EH11002 | 3336 |
| 26096 | 7590 10/11/2005 | | | EXAMINER | |
| | | Y & OLDS, P.C. | HWU, DAVIS D | | |
| 400 WEST MAPLE ROAD SUITE 350 | | | | ART UNIT | PAPER NUMBER |
| BIRMINGH | AM, MI | 48009 | 3752 | | |

DATE MAILED: 10/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary 107/66,398 MRPHY ET AL Examiner | | Application No. | Applicant(s) | | | | | |
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| Examiner | | | | | | | | |
| Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILLING DATE of this communication appears on the cover sheet with the correspondence address — Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILLING DATE OF THIS COMMUNICATION. - If NO period for may be available udder the provisions of 37 (PR 1.136(a)). In one week, however, may a septy be limity flad after St. (9, MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statisticy period will apply and will expit and Will apply and will | Office Action Summary | | | | | | | |
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| WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be washed under the provisions of 37 CPR 1.10(a). In no event, however, may a reply be timely filled able 58 (ix) (MADNTE from the mailing date of this communication. - Failure to reply within the size or extended period for extende | | ppears on the cover sneet | with the correspondence address | | | | | |
| 1) Responsive to communication(s) filed on 16 September 2005. 2a) This action is FINAL. 2b) This action is non-final. 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4) Claim(s) 11-14 is/are pending in the application. 4a) Of the above claim(s) | WHICHEVER IS LONGER, FROM THE MAILING - Extensions of time may be available under the provisions of 37 CFR 1 after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory perio - Failure to reply within the set or extended period for reply will, by statu Any reply received by the Office later than three months after the mail | DATE OF THIS COMMU 1.136(a). In no event, however, may d will apply and will expire SIX (6) No tte, cause the application to become | NICATION. y a reply be timely filed MONTHS from the mailing date of this communication. BABANDONED (35 U.S.C. § 133). | | | | | |
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DETAILED ACTION

1. Applicant's election of claims 11-14 and withdrawal of claims 1-10 and 15-19 are acknowledged.

Claim Rejections - 35 USC § 103

- 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 3. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Markstein et al. in view of Mayer et al.

Markstein et al. show a convergent/divergent nozzle system comprising a plurality of convergent flaps 50 positionable across a range of angular orientations, a plurality of divergent flaps 54 pivotable connected to the convergent flaps at a joint structure and positionable across a range of angular orientations, and a plurality of divergent flap seals 55 intermediate the plurality of divergent flaps, each of the divergent flap seals at least partially overlapping an adjacent divergent flap as recited. Markstein et al. do not disclose at least one of the divergent flaps comprising a multiple of cooling channels as recited. Mayer et al. teaches a convergent/divergent nozzle system comprising divergent flaps (parts 54 and 60D) in which the divergent flaps have a cooling channel 68, the cooling channel comprising an intake 70 adjacent a joint structure 50F and outlets 80 aft of the joint structure. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the device of

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Markstein et al. by providing the divergent flap with a cooling channel as taught by Mayer et al. to protect the nozzle from thermal degradation from hot gas flow.

Regarding having a multiple of cooling channels and also the plurality of intakes as recited in claims 12 and 13, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art.

Conclusion

- 4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents to Sondee et al. and Nash et al. are pertinent to Applicant's invention.
- 5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davis D. Hwu whose telephone number is 571-272-4904. The examiner can normally be reached on 8:00-4:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel can be reached on 571-272-4919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov.

Davis Hwu